

- 57 -

Abstract

[0154] An electro-kinetic air conditioner for removing particulates from the air creates an airflow using no moving parts. The airflow is subjected to UV radiation from a germicidal lamp within the device. The conditioner includes an ion generator that has an electrode assembly including a first array of emitter electrodes, a second array of collector electrodes, and a high voltage generator. The device can also include a third or leading or focus electrode located upstream of the first array of emitter electrodes, and/or a trailing electrode located downstream of the second array of collector electrodes, and/or an interstitial electrode located between collector electrodes, and/or an enhanced emitter electrode with an enhanced length in order to increase emissivity.